Hip Fractures and Replacements

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About Me

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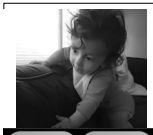
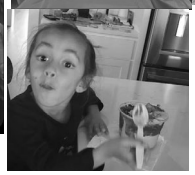





Outline

- Fractures
  - Anatomy
  - Types
- Hip Replacements
  - Anatomy
  - During surgery
  - Post-operative care
  - Recovery
  - Case examples

HIP FRACTURES

Basics

- Increasingly becoming more common
- Very high rate of death if not treated promptly
  - Operative delay of >2 days increases death rate
- More often in Females than Males
- More often in Caucasians than African Americans

Acetabular Anatomy

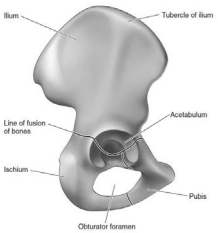


Figure 15-3. The hemipelvis comprises the ilium, the ischium, and the pubis.

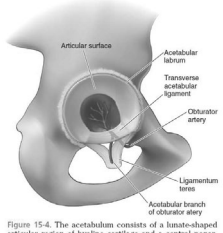
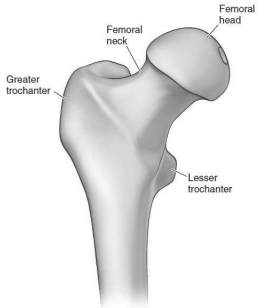


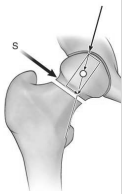
Figure 15-4. The acetabulum consists of a lunate-shaped articular region of hyaline cartilage and a central nonarticular fossa. From the inferior aspect of the fossa, the ligamentum teres carries the acetabular branches of the posterior division of the obturator vessels.

Femoral Anatomy

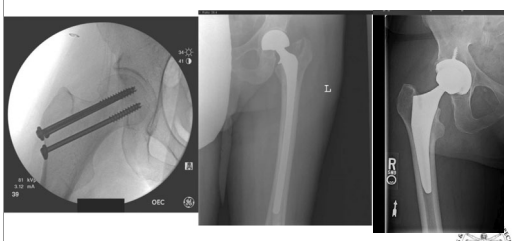


Femoral Neck Fracture

- Can occur in elderly and young
  - In elderly often fall from standing
  - Mortality of 20% in first year
  - Mortality of 45% in patients with kidney disease



Femoral Neck Fracture



Intertrochanteric Fractures

- Similar demographics to femoral neck except patients tend to be older
- 20-30% mortality after fracture
- Co-management with hospitalists improve outcomes

Intertrochanteric Fractures

Subtrochanteric Fracture

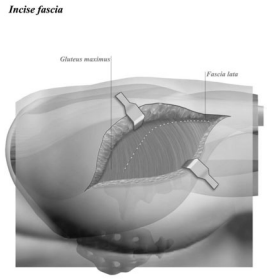
- Can happen in younger patients with high energy
- Older patients: can be atypical fracture after long term bisphosphonate use
  - Will often have thigh pain for a while prior to fracture

Subtrochanteric Fracture

HIP REPLACEMENTS

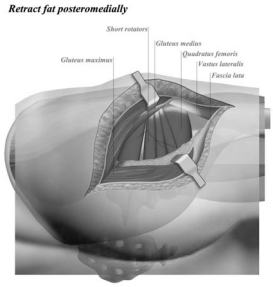
Anatomy

- Standard total hip approaches
  - Posterior Approach
    - Incision through gluteus maximus



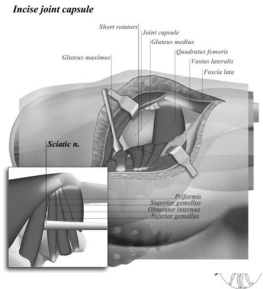
Anatomy

- Standard total hip approaches
  - Posterior Approach
    - Exposure of the short external rotator muscles



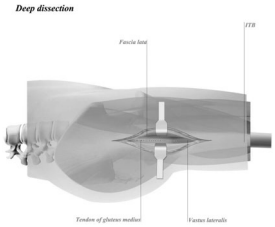
Anatomy

- Standard total hip approaches
  - Posterior Approach
    - Exposure of the short external rotator muscles which are then cut and moved
    - Capsular incision
    - Dislocation posteriorly



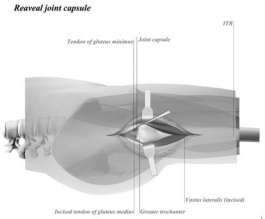
Anatomy

- Standard total hip approaches
  - Lateral Approach
    - Incision through the IT Band
    - Incision through the gluteus medius tendon



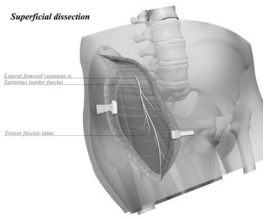
Anatomy

- Standard total hip approaches
  - Lateral Approach
    - Incision through the IT Band
    - Incision through the gluteus medius tendon
    - Incision through gluteus minimus
    - Capsular incision
    - Dislocation anteriorly



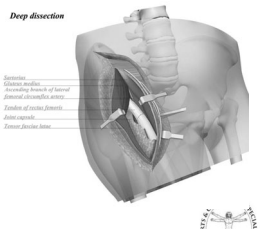
Anatomy

- Standard total hip approaches
  - Anterior Approach
    - Incision on the front on the thigh
    - Inter-nervous interval between Sartorius (F) and Tensor Fascia Lata (SG)
      - Lateral femoral cutaneous nerve→ lateral thigh numbness

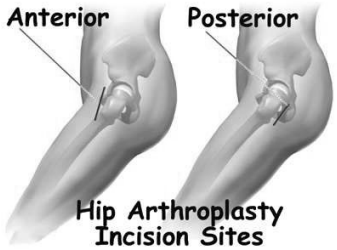


Anatomy

- Standard total hip approaches
  - Anterior Approach
    - Incision on the front on the thigh
    - Inter-nervous interval between Sartorius (F) and Tensor Fascia Lata (SG)
    - Reflected head of Rectus Femoris tendon moved off the capsule
    - No dislocation, bone work begins

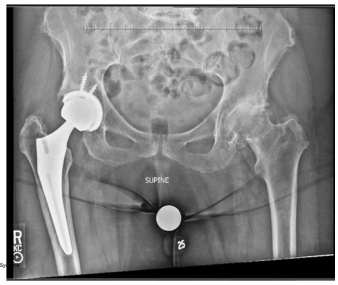


Anatomy



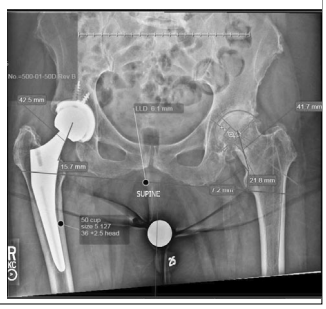
During Surgery

- How is it done?



During Surgery

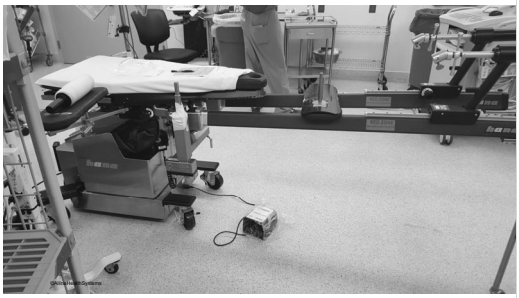
- How is it done?
  - Plan component positioning and leg lengths



During Surgery

- Hana table
  - Leg manuevering

During Surgery



During Surgery

- Intra-operative x-ray
  - Used to position components
  - Goal is to match pre-op plan

Post-operative Care

- Precautions
  - Weight bearing as tolerated
    - Walker or cane for 6 weeks
      - Remind them they had a THA
  - Avoid
    - Hyper-extension of the hip
    - Excessive external rotation
    - Pivoting

Post-operative Care

- Why do it?
  - Shorter hospital LOS
    - (Zawadsky et al JOA 2014)
  - More likely to be discharged home
    - (Zawadsky et al JOA 2014)
  - Lower pain scores while admitted
    - (Christensen et al JOA 2015)
  - Lower risk of dislocation

Recovery

J Arthroplasty. 2015 Mar;30(3):419-34. doi: 10.1016/j.arth.2014.10.020. Epub 2014 Oct 22.

Anterior vs. posterior approach for total hip arthroplasty, a systematic review and meta-analysis.

Higgins BT[1], Barlow DR[2], Heagerty NE[3], Lin TJ[1].

Author information

Abstract

The objective of this study is to compare the clinical, radiographic and surgical outcomes among patients undergoing primary THA performed via the anterior versus posterior approach. We searched numerous sources and eventually included 17 studies, totaling 2302 participants. In terms of post-operative pain and function, the anterior approach was significantly favored in 4 studies at short-term follow-up. Pooled estimates showed a significant difference in favor of the anterior approach in terms of length of stay and dislocations. Current evidence comparing outcomes following anterior versus posterior THA does not demonstrate clear superiority of either approach. Until more rigorous, randomized evidence is available, we recommend choice of surgical approach for THA be based on patient characteristics, surgeon experience and surgeon and patient preference.

- Patients may ask you about this…

Recovery

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- Note that there are some benefits of the approach
- At 6 weeks no subjective or objective differences between groups (Christensen et al 2015)
- Patients undergoing a THA via posterior approach are not getting an inferior surgery

2017 Hip Society Proceedings

Published online: 17 January 2018

John Charnley Award: Randomized Clinical Trial of Direct Anterior and Miniposterior Approach THA: Which Provides Better Functional Recovery?

Michael J. Taunton MD, Robert T. Trousdale MD, Rafael J. Sierra MD, Ken Kaufman PhD, Mark W. Pagnano MD

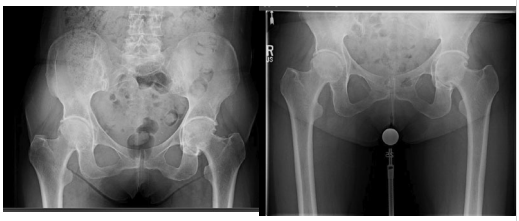
- 116 patients randomized; 52 in DAA group 49 in MPA group
- Time to discontinuation of ambulatory aides and number of steps per day at 2 weeks favored DAA
- No difference in complications between approaches

Case Examples

Case 1

- 52 y/o female nurse
  - 1 year history of progressive right groin pain
  - Difficulty getting out of a car
  - Otherwise medically healthy

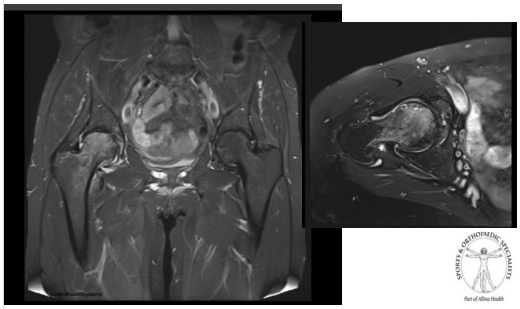
Case 1



Case 1

Note spinopelvic motion

Case 1



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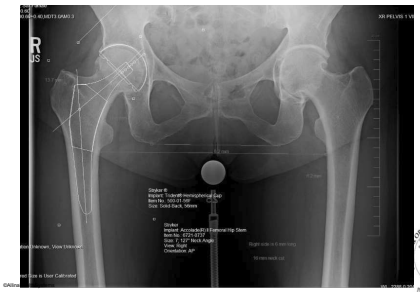

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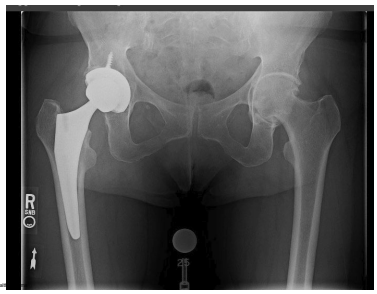


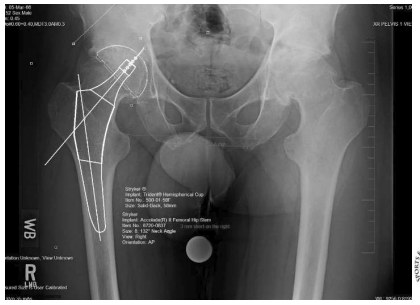
Case 2

- 56 year old male
  - Manager at General Mills
  - 2 years of right groin pain
  - Difficulty with going from sit to stand

Case 2

Case 2

Case 2



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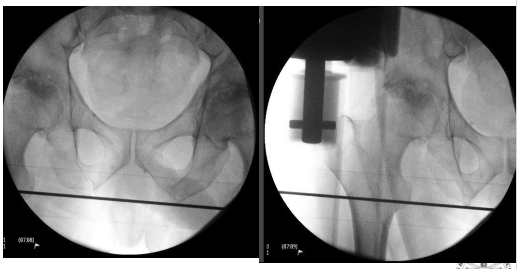


Case 2

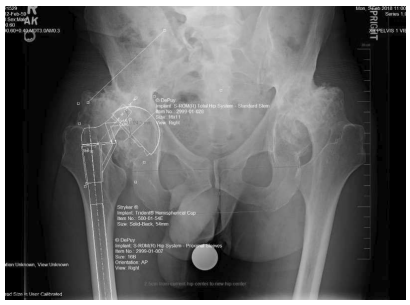
Case 3

- 60 year old machinist
  - 9 years of inability to move legs apart
  - No real pain but frustration with inability to move
  - Anterior approach not for everyone

Case 3

Case 3

Case 3



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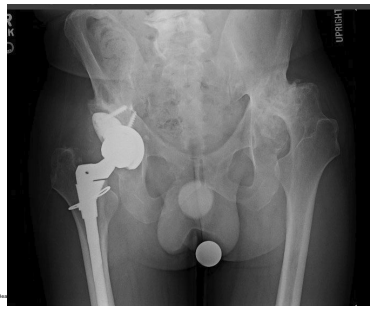

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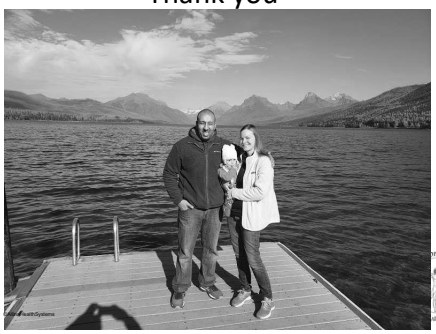

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